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Federal Communications Commission
Office of Secretary

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
Mass Media Services
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Presentation in CC Docket No. 96-45

Dear Mr. Caton:

On April 11, 1997, Ted L. Lightle, Director of the Office of Information Resources of the South Carolina Budget and Control Board and Clint L. Mullins, a Special Assistant in the State of South Carolina Department of Education, along with the undersigned, met with James Rubin to discuss the Universal Service Fund provisions relating to schools and library telecommunications in the above-referenced docket. A copy of the material left behind with Mr. Rubin is attached.

Respectfully submitted,


Benjamin J. Griffin

BJG:jw

Enclosures

cc: w/o encls. James Rubin, Esquire

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Networking Schools - The K-12 Technology Initiative

As a part of the Governor's proposed K-12 Technology Initiative, the Legislature funded connectivity for the state's K-12 public schools. This funding will enable each local school district to have a Wide Area Network (WAN) to connect its schools together, and will provide connectivity for each district WAN to SCINET and the Internet.

SCINET is the South Carolina Information Network, the state's communications network, managed by the Budget and Control Board's Office of Information. SCINET provides various voice, data and video services to state agencies, higher education, many county and local governments, and now to the K-12 community. As a result of this initiative, all schools in the state will soon have connectivity to the Internet, making South Carolina one of the first in the nation to accomplish this.

The Office of Information Resources (OIR), in partnership with the State Department of Education, SCETV and the state's 26 telephone companies, has been working with the state's 91 school districts to make this vision a reality. This massive effort has many parts. Network design, planning and installations have been proceeding at a fast pace. OIR has constructed a high-speed backbone network with multiple paths to the Internet. School districts have met with their local telephone company (or the multiple telephone companies, in many cases) to discuss the best way to configure a WAN for the district. And OIR is reviewing each design and is placing orders to meet each district's schedule. Over 60 school districts have WAN installations begun or completed, 11 have orders in process and installation ready to begin, and the remaining districts are in the planning phase.

In addition to WAN implementation, many school districts have found the need to install or expand the Local Area Networks (LANs) in each school. A volunteer wiring effort has been developed to assist schools in this area. Volunteers join local school personnel to provide the wiring infrastructure necessary to connect classroom and lab computers together so they can communicate with the rest of the world. Volunteers help pull wire, hold ladders, drill holes and perform many technical as well as non-technical jobs. Standard wiring kits were designed to provide a minimum LAN for a school. At least five rooms and a media center can be wired, or up to twelve additional rooms can be added with a wiring kit. And many schools are using multiple wiring kits.

These volunteer activities are usually scheduled for a Saturday morning, and a school can have a minimum sized LAN in just a few hours. Some schools have had or plan to have multiple wiring days, continuing until all rooms are wired. These Saturday work days are known as "SCINET DAYS", since they are designed to help the school get connected to SCINET. The next major SCINET DAY will be held on April 26 to coincide with National Netday, when volunteers across the nation will meet in schools for similar efforts.

If you would like more information on networking schools, call Tom Fletcher, 803-734-0404 or Walt Taylor, 803-734-1722. If you would like to get involved, contact your local school principal, call 1-888-SCINET1 (1-888-724-6381) or e-mail scinet@oir.state.sc.us.

SCINET

SCINET is the South Carolina Information Network. It provides voice, data and video communications as well as Internet service to the State network's user organizations, which include agencies, higher education, K-12 schools, and in some cases, county and local governments. It allows organizations to build their own "private" networks while gaining economies by the utilization of shared facilities. It also provides for sharing of network capabilities among user organizations.

South Carolina has four major LATAs and three cross-boundary LATAs. The State has an InterLATA private line contract to provide circuits necessary for connections which must be made from one LATA to another. InterLATA and IntraLATA circuits between major cities in the state are combined to form the SCINET backbone network. Sharing of backbone circuits provides for substantial savings to SCINET users. In many cases, multiplexing is utilized to accomplish this sharing. In other cases, network integration utilizing these intercity facilities provides economical statewide capabilities to network users.

The state is served by twenty six telephone companies (Local Exchange Carriers, or LECs). Various technologies are available from different LECs. Major network connectivity is achieved using point-to-point and multi-point circuits, Switched Multi-megabit Data Service (SMDS), Frame Relay service and various other traditional services. Different LECs not only provide different services, but also have different pricing structures and tariffs which may make different technologies appropriate in different parts of the state. SCINET user organizations are encouraged to take advantage of the most cost effective technologies available for the LECs to provide local connectivity and to provide connectivity to SCINET.

Backbone circuits are typically DS-1 (1.544 MBPS). Slower speed circuits such as DS-0 (56/64 KBPS), 19.2 KBPS or slower can also be provided by using multiplexing techniques. Multiplexing on backbone circuits is provided using BellSouth's Digital Access Cross connect System (DACS) at their Flex Nodes. Multiplexing of voice, data and video can also be provided on access circuits. Higher speed circuits and other multiplexing capabilities exist in the network, and will increase in the future.

Private line service can be provided on the SCINET backbone network. This allows agencies to install point-to-point circuits for voice, data and video applications. Agencies can also install multi-point circuits for SNA networks using the backbone at substantial savings.

The State has routers deployed in each of the four major LATAs which provide multi-protocol connectivity to the various network capabilities available in each LATA. These routers are initially being used to support the State's K-12 Technology Initiative, and other agency networks will be merged on an ongoing basis. The network transports TCP/IP, IPX, DECnet and other protocols necessary to connect systems within the state. The LATA routers also provide InterLATA and Internet connectivity. High speed circuits in each of the four major LATAs provide Internet connectivity. Connectivity to the router network can be obtained using Frame Relay, SMDS, point-to-point circuits and fiber optics cable.

The State provides voice services to agencies through its Electronic Tandem Network (ETN). The ETN provides local and long distance services within the state. A combination of State-owned PBXs and LEC central office switches are connected with intercity circuits to complete calls within the state. The SCINET backbone network is used to provide intercity circuits to the ETN. The ETN connects to the State's long distance vendor for connectivity to locations which are not directly connected to the network. Any site in the state can be connected to the ETN to obtain Intrastate and Interstate long distance services.

The State supports compressed video communications on SCINET. Point-to-point connections can be made using backbone facilities as well as by using ISDN dial-up service. Multiple locations can be connected using conference bridges located at the Office of Information Resources (OIR) and by using BellSouth's Multi-port Videoconferencing Service. Full motion video is provided on the State's Educational Television Network (ETV), which can also be accessed from SCINET.

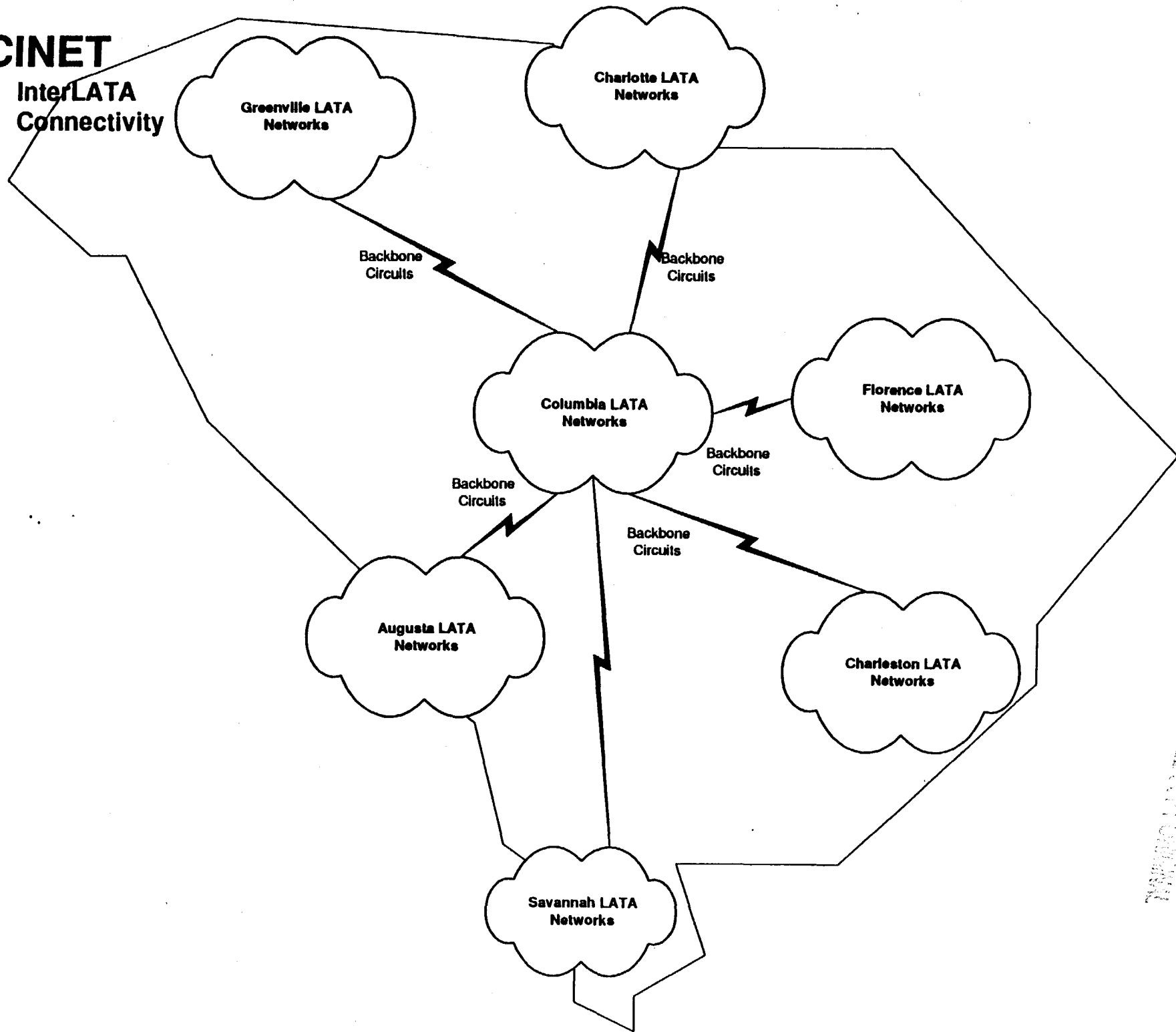
Within Columbia and Charleston where there are requirements for high speed and/or high volume communications, the State has installed fiber optic cables. These cables support connections within the State's network as well as connections to user organizations.

SCINET is governed by the SCINET Users' Council, made up of representatives of each user organization. SCINET is managed by the State Budget and Control Board's Office of Information Resources (OIR).

As a backup to SCINET, the Telephone, Cellular, Radio, and Utility companies in South Carolina also provides an Emergency Communications Network (ECN). The ECN consists of a Backup T-1 infrastructure and approximately 200 telephones located statewide in county emergency operations centers, public safety agencies, hospitals and other critical locations with access circuits and switching capabilities. The ECN can be activated in the event of an emergency declared by the State Emergency Preparedness Division or the Budget and Control Board if normal telephone communications systems have been disrupted.

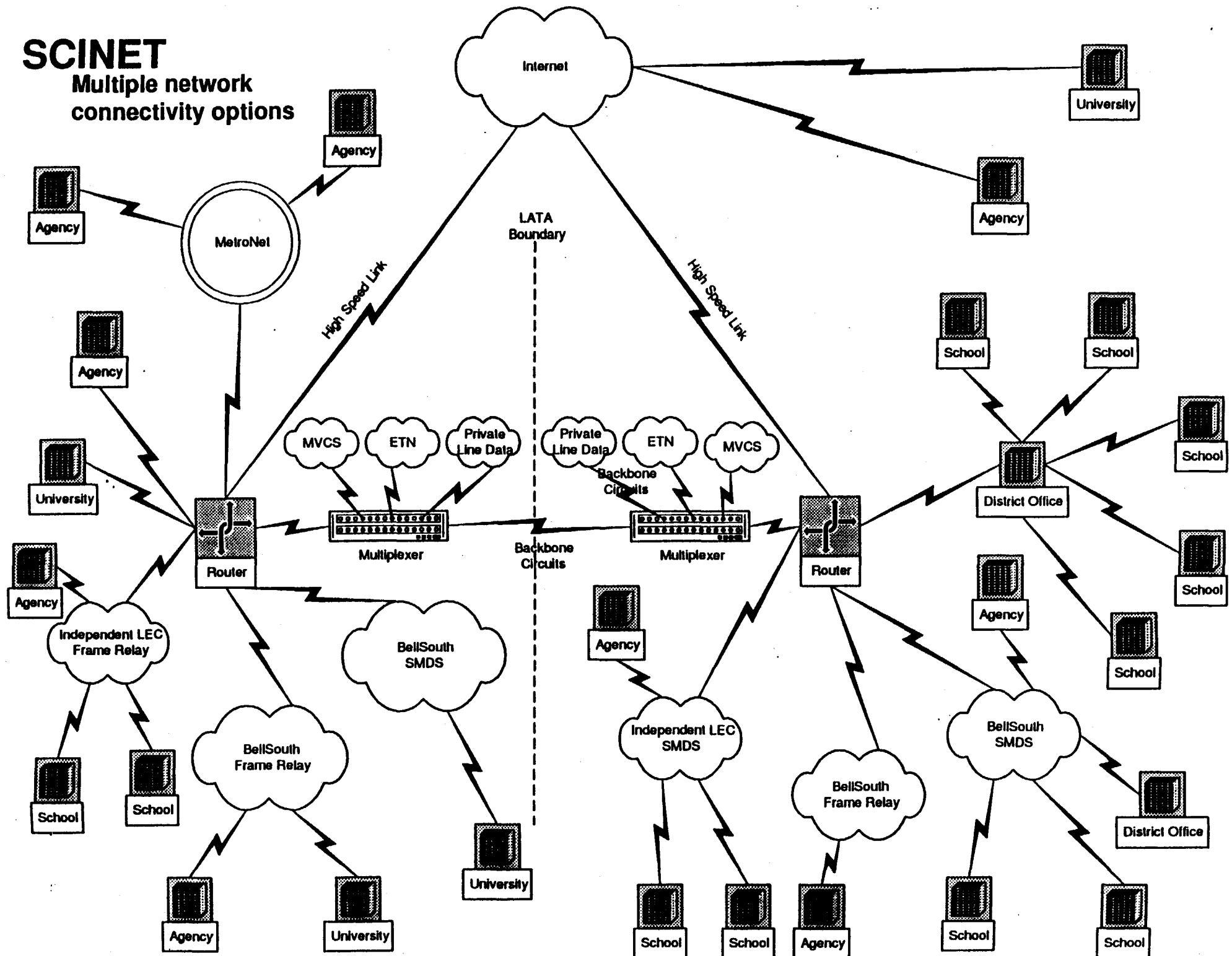
SCINET

InterLATA
Connectivity



SCINET

Multiple network
connectivity options



School District	Site Name	64k	T1	Other	DUE DATE	FIRM DATE	CIRCUIT #
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31-Mar-97

EXECUTIVE SUMMARY

WEEKLY REPORT K-12 PROJECT

TOTAL SITES 1296 SURVEYS RETURNED 1257 SURVEYS OUTSTANDING 39

CIRCUITS REQUESTED BY ELIGIBLE SITES **880** CIRCUITS ORDERED **839** ORDERS HELD PENDING DISTRICT READINESS **40**
PREVIOUS WEEKS TOTAL 824

CIRCUITS ORDERED BY SITE TYPE				CIRCUITS IN PROCESS BY SERVICE TYPE	
TOTAL SITES		LAST WEEK			
10	KINDERGARTEN	5	5	RECORDS ONLY	204
624	ELEMENTARY	396	404	NETWORK SITES	33
214	MIDDLE OR JUNIOR	140	142	SITES REPLACING DIALUP	116
230	SECONDARY	153	155	NEW CONNECTIONS	474
57	VOCATIONAL	29	29	FIELD OFFICES	12
12	SPECIAL SCHOOLS	4	4	TOTAL	839
104	DISTRICT OFFICES	52	55	CIRCUITS COMPLETED-WORKING CIRCUITS	626
33	NETWORK SITES	33	33	PREVIOUS WEEK'S WORKING CIRCUITS	610
12	FIELD OFFICES	12	12	CIRCUITS ORDERED IN PROGRESS	229
1296	TOTAL	824	839	NEW DIAL UP CONNECTIONS ON ORDER	176
				EXISTING DIAL UPS	411

346 SITES COMPLETED SCINET DAYS BEFORE 4/1/97
56 SITES ARE SCHEDULED FOR SCINET DAYS AFTER 4/1/97

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Director

December 17, 1996

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of pages > 4

To	TED LITTLE	From	FRANK HILL
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Dept.		Phone #	
Fax #	803-737-0069	Fax #	

RE: CC DOCKET 96-45, Comments on Federal-State Joint Board Recommended
Decision on Universal Service

As the agency responsible for providing telecommunications services to state government agencies, and in many cases local governments in the state of Georgia, the Information Technology Division of the Department of Administrative Services (DOAS-IT) welcomes this opportunity to comment on the Federal-State Joint Board Recommended Decision on Universal Service.

DOAS-IT competitively procures, provides, and administers telecommunications and information system services which serve a wide array of state and local entities, including hospitals and other health care and human service activities; public schools, technical schools, and universities; law enforcement agencies and correctional facilities; and a multitude of other state and local government agencies and authorities. These services include voice, data, and video networks; wireline and wireless services and equipment, including voice, data, and paging systems; radio and microwave systems; and distance learning and telemedicine networks via both landline and satellite. All of these services are provided via consolidated joint-use systems and a tightly integrated backbone telecommunications network which serves all these entities. We are particularly proud of the inroads we have made in provisioning what we believe is the world's largest terrestrial-based two-way compressed video teleconferencing system for distance learning and telemedicine, which extends these services into the rural environs of the state. We also provide telecommunications services to a number of cities and counties, including their K-12 school systems.

We would like to commend the Joint Board for their thorough investigation of this complex and difficult matter. We generally agree with most of their discussion and findings. However, there are a few matters in which we believe merit the Commission's further consideration and investigation, and modification to the Recommended Decision, before final approval.

We have reviewed and fully concur with the comments submitted by the National Association of State Telecommunications Directors (NASTD). The NASTD comments provide an excellent general overview of the issues based on their broad membership. Our comments, as you will see, more specifically address the issues with respect to the State of Georgia.

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First, we are concerned that the concept of providing universal service support to eligible schools, libraries, and rural health care providers who are members of purchasing consortia has not been adequately explored, and does not recognize the role that state telecommunications agencies, such as DOAS-IT, play in this process (re. Section 593 *et seq.*). Specifically, it appears that the Recommended Decision, as currently drafted, would not allow these entities in Georgia to continue to use services currently provided at volume discounted rates by DOAS-IT. This could result in the cost of these services to both these entities and all other users of these services to increase. Although such an outcome would likely be inadvertent, it should and can be prevented.

As a matter of explanation, in carrying out its statutory role DOAS-IT functions as an aggregator of service volumes for all users of its services, obtaining term and volume discounts based on their total requirements. These volume discounted services are then repackaged and provided to our customers as a complete service (i.e. in its simplest form combining network long distance with local dialtone and a telephone set as a single "service"). This process insures the best possible price performance to our users, and eliminates the cost of their individually obtaining and administering these services. Our services are not limited to just state government. Georgia statutes permit and in fact encourage local governments to avail themselves of our low cost services. Many local governments, or their individual departments (such as school districts), take advantage of this opportunity and enjoy the attendant reduced costs.

However, not just the local governments win from this arrangement. By adding their volumes to those generated by the state agencies, universities, and other authorized users, we are able to further leverage cost, and bring added savings to all users. The winner in this arrangement is the taxpayer, who, in the long run, pays for the cost of government at all levels.

Our concern is that the Commission will inadvertently create rules which force the deaggregation of these volumes, thereby causing not only the cost to schools, libraries, and rural hospitals to rise, but also increasing the cost to state government and its other network and service users. Rather, the Commission must take such existing purchasing consortia into account in its deliberations and make provisions which allow them to continue operating in the very cost effective manner which they do today. These volume discounts, when combined with the discounts suggested for the universal service fund, will bring truly low cost service to the eligible entities.

A good example of this aggregation process is our Georgia Statewide Academic and Medical System (GSAMS) Network. GSAMS connects approximately 377 distance learning sites (with projected growth to nearly 400 sites this fiscal year) throughout the state. Of these sites, 169 are installed in K-12 schools, with another 21 scheduled for installation or in the planning stages. The remaining sites are at University System Institutions, Technical and Adult Educational Schools, Correctional Facilities, and some state administrative training sites. The distance learning process involves all these sites working together as a team to deliver educational programming among themselves. In addition to network services, maintenance and equipment and other services supporting GSAMS are purchased from competitively bid volume-based contracts which provide low per unit cost. To deaggregate and disconnect the K-12 school sites from this network would cause costs for all users to rise. It would also significantly impact the delivery of distance education on the network, since much of the programming for K-12 schools originates from the higher education sites.

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The telemedicine portion of GSAMS reflects this same volume discount situation, particularly since its network services are provided under the same contracts as the distance learning sites. Of the current 46 telemedicine sites, 39 are in rural Georgia. Further, most of the 15 additional sites which are expected to be added this fiscal year are also in rural areas of the state. The Telemedicine Network operates in a hub and remote arrangement, with rural hospitals as the remotes and urban hospitals (including two teaching hospitals) as the hubs. Remotes are assigned to their respective primary hubs for support, and switched via GSAMS network when they require specialist assistance from another hub site or one of the teaching hospitals. Deaggregation would create a situation similar to that expressed above for distance learning.

The GSAMS network provides $\frac{1}{4}$ -T1 connectivity, switching, and multipoint bridging to all distance learning sites. The telemedicine sites are provided full-T1 connectivity and similar switching and multipoint bridging. The volumes of both applications are combined for contracting with service providers for both the intraLATA and interLATA networks. The interLATA network requirements are further aggregated with all state interLATA network requirements (e.g. voice and data) into a consolidated backbone that is competitively bid as a unit for the most favorable pricing. We have, in fact, recently begun moving these T1s into a competitively procured DS3 backbone to further reduce the cost to all users. We are absolutely convinced that the volumes we are able to aggregate and bring to the table result in lower costs for all network users. Loss of the volumes from GSAMS would significantly increase the cost of other network services to state government and its taxpayers.

When we first negotiated the contracts for the provision of GSAMS intraLATA network services we did so based on an expected 200 sites. When it became obvious that the number of sites, just for distance learning, would likely double this number, we were able to leverage this volume to reduce the network rates by an additional 22%. Likewise, as noted above, when we added the supporting interLATA T1 network backbone requirements to those for the rest of the state's voice and data networking, we were able to obtain significantly discounted pricing and in fact have now been able to justify DS3 in our interLATA network, further reducing costs for all network users. These reductions in network costs were not unexpected as we had seen similar volume-based reductions in maintenance and other GSAMS related costs.

Removing the GSAMS distance learning and telemedicine services from the backbone would significantly increase the cost of networks services to other users. Again, the end result is that the taxpayer is burdened with the additional avoidable costs for both programs.

This same shared use and volume aggregation for lower pricing concept applies to other services provided to local and state government users, such as dialtone, long distance calling, Internet access, etc. For example, the standard GSAMS site includes three telephone lines which support the video services and a fax machine. These lines are typically provisioned from state operated joint use telephone systems which enjoy volume discounts similar to those described for the video network services above. We also provide Internet access services to several eligible schools and health care agencies, using similar volume discounted network services.

We believe that preventing state telecommunications organizations like ours from aggregating the volumes from both universal service fund eligible entities and the rest of our state and local government telecommunications service users will have a detrimental effect on the cost to both groups. This is not the intent of the 1996 Telecommunications Act or of the Recommended Decision. We believe that the same discounts that would be directed to discount eligible entities should be funneled through DOAS-IT, with adequate protection provided to insure that non-eligible entities do not receive the discounts.

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We would also like to comment in two other areas: the issue of who should contribute to the universal service fund and the method of procurement of services.

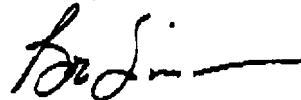
With regard to the first, we recommend that the Commission establish as broad-based a group of service providers as possible as contributors to the universal service fund. In reality any contributions will be passed on to the rate payer. By spreading the cost over a broad base, the cost applied to individual services will be reduced. This will help hold down the cost of service to state and local governments and their local constituencies. This concept also supports that part of the Recommended Decision which suggests competitive neutrality be maintained in the distribution of costs for the universal service fund.

Lastly we would suggest that the Commission closely examine the process for eligible entities to procure services as proposed in Section 602 of the Recommended Decision. We have informally consulted with our state purchasing staff and they have expressed concern that the suggested method (posting the requirements on a web site) may not satisfy the competitive bidding requirements of the state's procurement code. This would inhibit the state's ability to comply with a final order. It would also inhibit many local government entities compliance, most of whose procurement codes either mirror or closely mirror those established by the state.

In summary, DOAS-IT commends the Joint Board for their thoroughness in investigating this matter. Their recommendations are generally soundly based. We do have concerns in three areas, as detailed above. First, that the Commission not inadvertently undermine the value of the consolidated network and aggregated purchase arrangements which we have already put in place or can put in place by DOAS-IT to meet the needs of the entities eligible for universal service fund support. Second, we believe the source of contributions to the universal service fund should be broad based. Third, we encourage the Commission to insure that it does not require those eligible for universal service fund assistance to follow a procurement process which is in conflict with established statutory requirements governing their purchase of goods and services.

We appreciate the opportunity to provide comments to the Commission in this matter, and the willingness of the Commission to hear our concerns. We would like to make an open offer to the Commission to provide any additional clarifying information that would assist them in reaching their decisions in this important matter.

Sincerely,



Robert K. Simpson
Director

Summary of NASTD Position on Universal Service support to Eligible Entities

- NASTD is a national association of all 50 states.
- NASTD members manage state telecommunications networks used by many entities.
- These network services are procured competitive procurement processes.
- This network aggregation assures broadest availability of service at the lowest dollar.
- Many of these networks today serve eligible entities along with other entities.
- Thousands of schools now have Internet access due to these network connections.
- Some states have shared distance learning and telemedicine networks as well.
- A State government telecommunications networks constitutes a network consortium as described in paragraph 594.
- The state telecommunications organization should be able to procure services on behalf of eligible entities and receive and pass directly through any USF discounts.